

REMARKS

The Applicants do not believe that examination of the response contained herein will result in the introduction of new matter into the present application for invention. Therefore, the Applicant, respectfully, requests that this response be entered and the claims to the present application, kindly, be reconsidered.

The Office Action dated June 10, 2005 has been received and considered by the Applicants. Claims 1-12 are pending in the present application for invention. The Office Action rejects Claims 1-12.

The Examiner takes Official Notice that using signal peak detectors to measure reflected light and that measuring reflected light using either a signal peak detector or a DC level are obvious variants of each other. The Applicant, respectfully, disagrees. The use of a signal peak detector as defined by the rejected claims to measure a reflection from the spot of only one of the states and use a measured value of the reflection is used for controlling the power of the laser diode for writing of both states is not well known within the art. The Applicant, respectfully requests that the Examiner produce prior art references that disclose subject matter for the use of a signal peak detector to measure a reflection from the spot of only one of the states and use a measured value of the reflection is used for controlling the power of the laser diode for writing of both states. The Applicant, respectfully, submits that the foregoing subject matter is not disclosed or suggested within the prior art.

The Office Action objects to Claim 1, 7 and 8 due to various informalities. The foregoing amendment to the claims has corrected each of these various informalities as suggested by the examiner with the exception of the final informality alleged by the Examiner. The final informality states that "spots already" should be replaced. The applicant, respectfully, disagrees. The term "spots already" is not informal in any way. The amendment made to correct these informalities does not narrow any of the claim so amended. Furthermore, the amendment was not made in response to any statute pertaining to the patentability of the claim so amended. Therefore, this amendment made to correct informalities should have no effect upon the interpretation of equivalents for the subject matter defined by the claims to the invention.

The Final Office Action rejects Claims 1-12 under the provisions of 35 U.S.C. §112, first paragraph for failing to comply with the enabling requirement. The Examiner's position is that the rejected claims define subject matter that is not described in the specification

in a manner that enables a person skilled in the art to make and use the invention.

The MPEP at §2164 states that the “enablement requirement refers to the requirement of 35 U.S.C. 112, first paragraph that the specification describe how to make and how to use the invention. The invention that one skilled in the art must be enabled to make and use is that defined by the claim(s) of the particular application or patent.

The purpose of the requirement that the specification describe the invention in such terms that one skilled in the art can make and use the claimed invention is to ensure that the invention is communicated to the interested public in a meaningful way. The information contained in the disclosure of an application must be sufficient to inform those skilled in the relevant art how to both make and use the claimed invention. However, to comply with 35 U.S.C. 112, first paragraph, it is not necessary to “enable one of ordinary skill in the art to make and use a perfected, commercially viable embodiment absent a claim limitation to that effect.” *CFMT, Inc. v. Yieldup Int’l Corp.*, 349 F.3d 1333, 1338, 68 USPQ2d 1940, 1944 (Fed. Cir. 2003).”

The rejection alleges that the subject matter defined by the rejected claims is not enabled by the specification to the present applicant for invention. The Applicants, respectfully, submit that the subject matter defined by the rejected claims is communicated to the interested public in a meaningful way by the specification to the invention as originally filed for the reasons stated below.

Regarding Claim 1, the Examiner’ position is that the terminology “a reflection is measured from the spot of only one of the states and a measured value of the reflection is used for controlling the power of the laser diode for writing of both states” is not disclosed. The Applicant, respectfully, disagrees. An object of the invention is described beginning on page 2, line 4 of the specification as providing “the control of the output power during writing”. The specification then states on page 2, lines 6-8 that this “object is achieved in that during the writing of the states the reflection is measured of only one of the states and the measured value is used for controlling power of the diode even when the other state is being written.”

The specification on page 2, lines 9-12 states that preferably “when a highly reflective (= crystalline) state is written, the reflected amount of light is measured by means of a

signal peak detector and compared to a reference value. In case of deviations, for example as a result of soiling of the surface of the storage medium, the power of the laser diode is readjusted accordingly.” This foregoing passage clearly defines subject matter that occurs during the writing of a highly reflective state wherein the power of the laser is readjusted in a read during write cycle. The specification on page 2, lines 12-14 states that the “readjustment factor determined in this manner is also retained preferably when writing a low reflective (= amorphous) state.” Note that the word “also” within the foregoing passages clearly shows that the readjustment factor is used writing for writing both crystalline and amorphous states. The sentence on page 2 lines 9-19 of the specification clearly states that an “individual readjustment for writing a low-reflecting state is not necessary as a result.”

Specifically, the description on page 2 lines 9-19 of the specification describes a process that employs the reflection from the highly reflective states for writing both highly reflective states and low reflective states. Still more specifically, the description on page 2 lines 9-19 of the specification describes that deviations as a result of soiling will use the reflection from the highly reflective state for writing both crystalline and amorphous states. The description on page 2 lines 9-19 of the specification specifically states that channel coding ensures that the highly reflective states are not too far apart and that the distances between the highly reflecting states to be written are generally smaller than the assumed extent of the soiling. It will be clear to any person of ordinary skill within the art that the description on page 2 lines 9-19 of the specification is discussing that writing for both crystalline and amorphous states will use reflections determined from the highly reflective states for laser readjustments. It is further explained on page 2 lines 9-19 of the specification that it is possible to use only the highly reflective states due to the assumed extent of the soiling being larger than the spacing of the highly reflective states “to be written”. Note that there is no mention within the specification that would lead or otherwise motivate a person skilled in the art to retain a reflected value from a low-reflective state to be used for controlling laser power. The specification clearly teaches to a person skilled within the art that it can be advantageous to use the reflection obtained from highly-reflective states for controlling laser power for writing both crystalline and amorphous states, at least over soiled areas.

The example of the embodiment is detailed beginning on page 2, line 24 of the specification and proceeding through page 3, line 6. The specification on page 2, lines 27-30

states that in "control circuit 5 is determined the respective laser power of the laser diode 2". The Applicant reminds the Examiner that the previously discussed description at page 2, lines 9-14 states that during writing of a highly-reflective state that light is measured and compared with a reference value, and in the case of deviations the power of the laser diode is readjusted accordingly. The example of the embodiment further describes on page 3, lines 3-5 that the gain factor is changed in accordance with reflected light to provide as constant a power as possible on the storage medium when one or the other state is written. A person skilled in the art would conclude from the foregoing that reflections from highly-reflective states are used to readjust power when writing both states.

Therefore, this rejection is traversed.

Regarding Claim 2, the rejection states that is not disclosed how "the reflection is measured at spots where a piece already in a highly reflecting state is overwritten with a highly reflecting state". The Applicant, respectfully, directs the Examiner attention to page 3, lines 20-21 of the specification where it is stated that preferably "the reflection is measured at spots where a piece already in a highly reflecting state is overwritten with a highly reflecting state". The description on page 3, lines 20-21 of the specification details a preferred measuring point for the reflection that is described on lines 9-19 to page 2 of the specification. The example in the Figure shows an embodiment for detecting and measuring the reflection. Therefore, this rejection is, respectfully, traversed.

Regarding Claim 4, the Examiner states that the disclosure of the invention does not enable one skilled in the art to use a reference value to measure reflections of writing spots for only one state during writing. The Applicant, respectfully, disagrees. Page 2, lines 9-11 clearly states "the reflected amount of light is measured by means of a peak detector and compared to a reference value. Any person of ordinary skill within the art will quickly and readily understand how to implement a signal peak detector measurement compared within a reference value for only one of the states during writing. Therefore, this rejection is, respectfully, traversed.

Regarding Claim 5, the Examiner states that the disclosure of the invention does not enable one skilled in the art to use a reference value to measure reflections of writing spots for only one state during writing for adjusting. The Applicant, respectfully, disagrees. Page 2, lines 9-12 of the specification clearly states that the power of the laser diode is adjusted if a

comparison of the signal peak detector to the reference value indicates a deviation. Therefore, this rejection is, respectfully, traversed.

Regarding Claim 7, the Examiner states that the disclosure of the invention does not enable means for measuring a reflection from a written spot for only one state during writing. The Applicant, respectfully, disagrees. The specification on page 2, lines 6-8 that this "object is achieved in that during the writing of the states the reflection is measured of only one of the states and the measured value is used for controlling power of the diode even when the other state is being written." The specification on page 2, lines 9-12 states that preferably "when a highly reflective (= crystalline) state is written, the reflected amount of light is measured by means of a signal peak detector and compared to a reference value. The example of the embodiment is detailed beginning on page 2, line 24 of the specification and proceeding through page 3, line 6. The specification on page 2, lines 27-30 states that in "control circuit 5 is determined the respective laser power of the laser diode 2". The Applicant reminds the Examiner that the previously discussed description at page 2, lines 9-14 states that during writing of a highly-reflective state that light is measured and compared with a reference value, and in the case of deviations the power of the laser diode is readjusted accordingly. The example of the embodiment further describes on page 3, lines 3-5 that the gain factor is changed in accordance with reflected light to provide as constant a power as possible on the storage medium when one or the other state is written. A person skilled in the art would conclude from the foregoing that reflections from highly-reflective states are used to readjust power when writing both states. Therefore, this rejection is, respectfully, traversed.

Regarding Claim 7, the rejection states that it is not clear how the elements of the Figure are interrelated or configured to achieve power control. The Applicant, respectfully asserts that person of ordinary skill within the art can look at the Figure and by viewing the description on page 2-3 of the specification as discussed hereinbefore in the response to the rejection of Claim 1, would readily understand how to enable the subject matter for laser power control using reflections from highly-reflective states to readjust power when writing both states. A person of ordinary skill within the art would find it trivial to implement the subject matter to which the Examiner refers.

Regarding Claim 8, the rejection states that it is not clear how the peak detector is configured to measure spots already in a highly reflective state that are being overwritten with a

highly reflective state. The Applicant, respectfully, submits that a person of ordinary skill within the art would be capable of implementing the subject matter to which the Examiner refers. A person of ordinary skill within the art would realize that the disclosed photodiode that detects a reflected signal can be used to detect highly reflective areas and that the recording system is well aware of writing highly reflective states. Therefore, implementation of the invention as claimed is clearly realizable for a person skilled in the art.

The Office Action rejects Claims 1-6 under the provisions of 35 U.S.C. §112, second paragraph as being incomplete and lacking essential elements. The Examiner's position is that the rejected claims omit elements for providing the claimed results. The Examiner lists recording two different states, adjusting a power level, measuring from the spot of only one of these states, and controlling the power for writing both states. The Applicant, respectfully points out that Claim 1 defines an electronic optical recording device for optical recording on rewritable media, with which two different states can be recorded by adjusting a power level of a laser diode depending on information content to be generated on the media. Claim 1 is characterized in that during writing of the states a beam from the laser diode is focused upon a spot that is written for one of the states, a reflection is measured from the spot of only one of the states and a measured value of the reflection is used for controlling the power of the laser diode for writing of both states. Therefore, the subject matter to which the Examiner refers is found within the rejected claims. Accordingly, this rejection is traversed.

The Office Action rejects Claims 1, 2, 6-8 and 12 under the provisions of 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,712,839 issued to Aoki (hereinafter referred to as Aoki). The Examiner's position is that Aoki discloses the subject matter defined by Claims 1, 2, 6-8 and 12. The Applicant, respectfully, points out that Aoki specifically discloses that the reflection from recording on a phase change type medium is hardly detected and, therefore, teaches to employ to control reflection from the medium using a bias (erase) level (see col. 6, lines 17-24), rather than a recording level as defined by the rejected claims. The Applicant submits that even if the Examiner was to interpret that the erase power level (the bias level) of Aoki is used in recording for data, the bias level is clearly a less reflecting level as taught by Aoki (see reflection signal shown in Figure 3 of Aoki wherein the reflection signal is least during bias power levels)

Regarding Claim 1, the Applicant would like to, respectfully, point out that Aoki

teaches monitoring reflected light during periods when light source radiates light having a bias level which is the erase power (see col. 4, line 62-col. 5, line 1). It should be noted that the erase power disclosed by Aoki is controlled to be in a range of 5-7 milliwatts and that the recording power disclosed by Aoki is controlled to be in a range of 10-15 milliwatts. Aoki provides no teaching related to monitoring reflected light during writing periods. The rejected claims define subject matter for during writing of the states a beam from the laser diode is focused upon a spot that is written for one of the states, a reflection is measured from the spot of only one of the states and a measured value of the reflection is used for controlling the power of the laser diode for writing of both states. Aoki does not does monitoring reflected beams during recording of one of the states but instead discloses monitoring during periods of the erase power being implemented for the laser diode. The erase power disclosed by Aoki is in a range of 5-7 milliwatts and that the recording power disclosed by Aoki is in a range of 10-15 milliwatts. Accordingly, the monitoring taught by Aoki can not occur during the writing of one of the states for the simple reason that recording as taught by Aoki requires power in a range of 10-15 milliwatts. Monitoring by Aoki occurs while the laser diode is in a range of 5-7 milliwatts used for erasing which is not sufficient power for writing states which is disclosed by Aoki as being within a range of 10-15 milliwatts. Accordingly, Aoki does not disclose all the elements of the rejected claims and in fact teaches away from the invention as defined by the rejected claims. Therefore, this rejection is traversed.

Rejected Claim 2, defines subject matter for the reflection being measured at spots where a piece already in a highly reflecting state is overwritten with a highly reflecting state. As previously discussed in the response to the rejection to Claim 1, Aoki teaches the use of a measuring reflectivity based on a bias determined at an erase power. The erase power taught by Aoki is not sufficient for writing (recording). Therefore, the subject matter defined by Claim 2 is not disclosed or suggested by Aoki. It is not possible for the monitoring during periods of erasure as taught by Aoki to be used to measure reflections for only one at spots where a piece already in a highly reflecting state is overwritten with a highly reflecting state. Simply put, as stated by the Examiner, there is no monitoring within Aoki during recording. Therefore, this rejection is traversed.

Claim 6 defines subject matter for the reflection of a highly reflective state to be used to control power when both the highly reflective state and the less reflective state are

written. The Applicant submits that even if the Examiner was to interpret that the erase power level (the bias level) of Aoki is used in recording for data, the bias level is clearly a less reflecting level as taught by Aoki (see reflection signal shown in Figure 3 of Aoki wherein the reflection signal is least during bias power levels). Claim 6 includes the subject matter of Claim 1 for an electronic optical recording device for optical recording on rewritable media, with which two different states can be recorded by adjusting a power level of a laser diode and that during writing of the states a beam from the laser diode is focused upon a spot that is written for one of the states, a reflection is measured from the spot of only one of the states and a measured value of the reflection is used for controlling the power of the laser diode for writing of both states. This subject matter is not disclosed, or suggested, by Aoki. As previously stated, Aoki monitors reflections occurring during an erase state which is specifically distinguished within Aoki from a recording state. The Examiner attempts to insert definition that the erase state is the same as the highly reflective state. However, Aoki clearly states that the bias determined during periods of the erase power is used to determine the monitoring of reflections. Aoki further states that the erase power is less than the recording power for either of the states. The monitoring of a reflection during an erase state is not equivalent to monitoring during recording. The Applicant submits that even if the Examiner was to interpret that the erase power level (the bias level) of Aoki is used in recording for data, the bias level is clearly a less reflecting level as taught by Aoki (see reflection signal shown in Figure 3 of Aoki wherein the reflection signal is least during bias power levels). Therefore, this rejection is traversed.

Claim 7 defines subject matter for an electronic optical recording device for optical recording on rewritable media that records by adjusting a power level of a laser diode to one of two different states depending on information content to be recorded on the media, comprising means for measuring a reflection from a written spot of only one of the states during writing and means for controlling the power of the laser diode to be a measured value of the reflection for writing both states. As previously discussed, only the light reflected during bias levels for erasure are measured by Aoki. There is no measuring a reflection from a written spot for only one of the states during writing or means for controlling the power of the laser diode to be a measured value of the reflection for writing both states. Therefore, this rejection is traversed.

Claims 8 and 12 are traversed for reasons previously discussed with respect to

Claim 2 and 6 above.

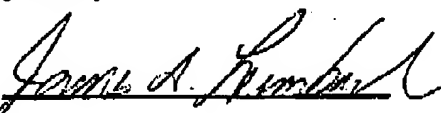
The Office Action rejects Claims 3-5 and 9-11 under the provisions of 35 U.S.C. §103(a) as being obvious over Aoki. The Examiner admits that Aoki does not disclose measuring a reflected signal using a peak detector as defined by the rejected claims. The Examiner takes Official Notice of using a signal peak detector to measure reflected light and that measuring reflected light using either a signal peak detector or a DC level are obvious variants of each other. The Applicant, respectfully, disagrees. The use of a signal peak detector as defined by the rejected claims to measure a reflection from the spot of only one of the states and use a measured value of the reflection is used for controlling the power of the laser diode for writing of both states is not well known within the art. The Applicant, respectfully requests that the Examiner produce prior art references that disclose subject matter for the use of a signal peak detector to measure a reflection from the spot of only one of the states and use a measured value of the reflection is used for controlling the power of the laser diode for writing of both states. The Applicant, respectfully, submits that the forgoing subject matter is not disclosed or suggested within the prior art. Therefore, this rejection is traversed.

The foregoing amendment to the claims adds new claims 13-20. These claims define subject matter discussed on page 2 of the specification. The subject matter for actions that occur as a result of a deviation that occurs as a result of soiling of the rewritable media, the deviation resulting in the power of the laser diode to be readjusted, the power of the laser diode as readjusted is retained for writing low-reflection states or the rewritable media being channel coded, is not disclosed or suggested by the cited references. Therefore, new Claims 13-20 are believed to be allowable.

Applicant is not aware of any additional patents, publications, or other information not previously submitted to the Patent and Trademark Office which would be required under 37 C.F.R. 1.99.

In view of the foregoing amendment and remarks, the Applicant believes that the present application is in condition for allowance, with such allowance being, respectfully, requested.

Respectfully submitted,

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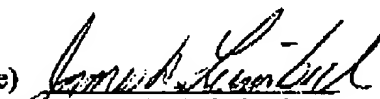
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